

GeoModel Upscaling - Petrophysics Courses & Training

There are two fundamental questions we will need to reply about it.

Just how much HC is there?

How readily will it stream?

The petrophysical metrics that notify us of just how much HC is there's Equivalent HC Column, feet or yards, and how readily it will emerge is Flow Ability, mdft or mdm. Be aware that these are equally gathered values, not averages.

The astrophysicist's task would be to quantify both of these essential as correctly as cheaply as possible with the resources at their disposal. The astrophysicist is better equipped to do this than every other group member. Having done this petrophysical EHC and kh have to be the complete reference for all these basic characteristics. The primary requirement of any version, in any given scale, which purports to describe the source, needs to be to equivalent to the petrophysical EHC and petrophysical kh in the nicely monitors. Permeability averaging is the winner of the condition, not just the master. Whatever means was embraced to 'ordinary' permeability must honor the petrophysical reference in the nicely track. Should it not the version is wrong, period.

Obviously, if the geomodeler thinks that the petrophysical EHC or kh is incorrect then the petrophysicist must diligently handle that issue utilizing legitimate well test kh worth from the petrophysical test (see IPRC, IPCFR). But this has nothing whatever to do with all the geomodel's averaging system. When the petrophysical kh is as completely evaluated as you can, the geomodel averaging procedure -- anything that may be -- needs to be re-engineered to equal the petrophysical kh.

The easiest approach to tackle this frequent issue is for the staff to quit believing k_{average} and begin thinking k flow capacity!

Envision your reservoir for a road cutting edge. All versions need to honor these details. When they do not they're mistaken. The permeability averaging system isn't a truth about the reservoir. It has flow capability is. The averaging process has to equal our very best quote of kh and can be that mathematical apparatus which averts the petrophysical significance of kh from the upscaled cell. In case the petrophysicist is capable the best quote of the is going to function as petrophysical well evaluation calibrated, successful or. Here is the mention.

Can you Geo-cell k worth function two distinct purposes, SwHt & kh?

Even the "averaged" permeability's influence on the geo-cell Saturation-height calculation has to be treated then to honor the petrophysical EHC, but this following usage of averaged k should not be permitted cause k to detract from your mobile's factual petrophysical kh value. The dual use of this geo-cell's a significance has the capacity to cause difficulties. One value of k might not have the ability to yield the right responses of petrophysical EHC and petrophysical kh, instead these petrophysical reference values have to be respected by whatever mathematical apparatus is imperative to allow it to figure its derivatives properly. (Mathematicians: using it in these specimens is empirical not theoretical) A heterogeneity variance k variable, in the petrophysicist for every single geo-cell period in the log information, might be inserted to the geo-cell saturation height or kh formulation to attain equality in EHC and kh across all scales of reservoir description. The k variance variable is a tuning parameter, a mathematical apparatus which achieves the goal (like n and m in Archie's equation. .) . The final result has to be the petrophysical EHC and kh whatsoever scales.

The geo-modeller must export the geo-model's grid upscaled, summed EHC and then kh down track back to petrophysical software. The complete EHC and Flow Capacity (a) of this stone has to be equivalent at all scales.

A single or worth might not fulfill this condition. Ask variance variable per geo-cell combined using the geo-cell a worth in the Swht or kh equations may enable 1 k value to function both of these functions. All Integrated Petrophysics courses available in whole, part or re-assembled. Delivered via Zoom or similar. Live or canned sessions. These are the best [petrophysics courses](#) at the best rates